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09/757,146	01/09/2001	Martin Kiesel	2000 P 03001 US	6433

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PATENT DEPARTMENT
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EXAMINER	
PEREZ DAPLE, AARON C	

ART UNIT	PAPER NUMBER
2121	

DATE MAILED: 11/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/757,146	KIESEL ET AL.	
	Examiner	Art Unit	
	Aaron C Per z-Daple	2121	

-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 26 September 2003 .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-7 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Response to Amendment

1. This action is in response to amendment filed 9/26/2003.

2. Claims 1-7 are presented for examination.

3. New grounds for rejection are presented. Therefore, this action is made NON-FINAL.

Response to Arguments

Objections

4. The objections to the specification are withdrawn in consideration of applicant's amendment.

5. The objection to the title is withdrawn in response to applicant's amended title , "A Universal Motion Controller with a Data Source and Converter."

Rejection Under 35 U.S.C. 112, First Paragraph

6. The rejection of **claim 6** under 35 U.S.C. 112 first paragraph is withdrawn in consideration of applicant's amendment.

Rejection Under 35 U.S.C. 112, Second Paragraph

7. The rejection of **claims 1, 4, 6, and 7** under 35 U.S.C. 112 second paragraph are withdrawn in consideration of applicant's amendment.

Rejection Under 35 U.S.C. 103(a)

8. As for **claims 1, 2 and 4-7** the rejection under 35 U.S.C. 103(a) has been withdrawn and a new grounds for rejection has been presented under 35 U.S.C. 102(a). Therefore, this action is made NON-FINAL.

9. Applicant's arguments filed 9/26/03 with respect to **claims 1, 2 and 4-7** in relation to the Cencik (US 5,933,638) reference have been fully considered but are found non-persuasive.

10. As for claim 1, applicant asserts that Cencik is attempting to solve a problem "bearing little relation to the concerns addressed by the claimed invention." As applicant points out in paragraph 2 of page 9 of the amendment, applicant's invention is intended "to permit the creation of optimal configurations for combined PLC/NC controllers." Cencik states that, "It is yet another object of the present invention to allow users to create process control applications that can be used in the fields of robotic, machine vision, factory automation, vision guidance, motion control, paint mixing, and other applications [col. 2, lines 9-13]," which, as one of ordinary skill in the art would recognize, clearly anticipates the creation of optimal configurations for PLC/NC controllers, among other applications [see also col. 1, lines 23-31, "Computers and other electronic...controllers and programs."; col. 10, lines 27-39, "As related above... 'Move_Robot', etc."].

In response to applicant's argument that Cencik fails to disclose "a uniform run level model comprising a plurality of run levels of different types having differing priorities and further comprising a plurality of user and system-levels having differing priorities," the Office respectfully disagrees. First, the Office points out that although an "Object

Evaluation Matrix" is used to construct the application control program, once constructed, the application program functions as "a run-time system" for a process control application [e.g. col. 2, lines 9-13], as would immediately be recognized by one of ordinary skill in the art. Indeed, Cencik's invention is directed towards the efficient creation of a run-time system for a process control application, which further has the advantage of an open and configurable architecture [col. 2, lines 6-23, "It is still a further...of the invention."]. In particular, applicant is referred to Cencik, col. 2, lines 14-18, which disclose use of the invention "to provide automation of continuous operations...while allowing the user to segment and partition the control system in an organized fashion."

That Cencik further anticipates the creation of "a plurality of user and system-levels having differing priorities" can be seen in the previously cited passage, col. 8, line 42 through col. 9, line 33. In particular, each "cell" of the Object Evaluation Matrix is defined by the user. As disclosed by Cencik, the cells link to objects which may have a wide range of properties comprising input/output, processing and control functions [see col. 2, lines 37-43, "The present invention allows...loop structures, etc."; Fig. 4]. Furthermore, each cell is assigned a priority, allowing the creation of "a uniform run level model comprising a plurality of user and system levels having differing priorities."

A close reading of Cencik discloses the use of a data source [memory, col. 2, line 32] for description information for one of the group consisting of system variables, alarms and commands [col. 2, lines 31-44, "An 'object' is defined...loop structures, etc."]. As would be recognized by one of ordinary skill in the art, the "Object Evaluation Matrix"

acts as a converter wherein the data source provides description information to the engineering system via the converter. Finally, the claimed "technology packets" can be broadly interpreted as any packet of information or data. The system disclosed by Cencik inherently includes technology packets for communication between the systems. More specifically, I/O objects would regulate the transfer of technology packets during run-time based on the object properties associated with the I/O objects. Furthermore, the programming of the system or the transfer of information to the system by the user may be said to comprise the transfer of data in the form of technology packets [col. 2, lines 37-43, "The present invention...loop structures, etc."].

Therefore, the Cencik reference alone teaches all the limitations of claim 1 and provides sufficient basis for the newly presented rejection under 35 USC 102(a).

11. As for claim 2, applicant submits that Cencik does not teach forwarding of information by the converter to an output medium. However, Cencik clearly teaches forwarding of information by the converter, which the Office interprets as the object evaluation matrix, to an output medium [monitor] which is required for the display of the object evaluation matrix to the user [Figs. 5A and 5B; col. 4, lines 3-23, "Referring now to the...function block 24)."]. Therefore, the Cencik reference alone teaches all the limitations of claim 2 and provides sufficient basis for the newly presented rejection under 35 USC 102(a).

12. As for claims 4-7, Cencik teaches all of the limitations including "technology packets" an "engineering system" and a "run time system" (see above). Furthermore, the technology packets of Cencik would inherently include "code parts" and "configuration

parts" in order for the system to operate as disclosed. Therefore, the Cencik reference alone teaches all the limitations of claims 4-7 and provides sufficient basis for the newly presented rejection under 35 USC 102(a) (see below).

13. Applicant's arguments with respect to the Mizuno et al (6,438,444 B1) reference have been considered but are moot in view of the new ground(s) of rejection.

Oath/Declaration

14. A new oath or declaration is required because it is not clear whether applicant intends to claim the benefits under 35 USC 120. The wording of an oath or declaration cannot be amended. If the wording is not correct or if all of the required affirmations have not been made or if it has not been properly subscribed to, a new oath or declaration is required. The new oath or declaration must properly identify the application of which it is to form a part, preferably by application number and filing date in the body of the oath or declaration. See MPEP §§ 602.01 and 602.02.

Specification

15. If applicant intends to claim benefits under 35 USC 120, the specification must include cross-reference to all related applications (see item b, below). The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper

case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

(a) TITLE OF THE INVENTION.
(b) CROSS-REFERENCE TO RELATED APPLICATIONS.
(c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
(d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
(e) BACKGROUND OF THE INVENTION.
(1) Field of the Invention.
(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
(f) BRIEF SUMMARY OF THE INVENTION.
(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
(h) DETAILED DESCRIPTION OF THE INVENTION.
(i) CLAIM OR CLAIMS (commencing on a separate sheet).
(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

16. Amended **Claim 6** is objected to because of the following informalities: line 2 recites "object types" where it should recite -object type-. Appropriate correction is required.

Claim Rejections - 35 USC § 102

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

18. **Claims 1, 2 and 4-7** are rejected under 35 U.S.C. 102(a) as being anticipated by Cencik (US 5,933,638).

As for claim 1, Cencik discloses a motion controller having an engineering system and a run time system and that functionally combines the classic tasks of a PLC and a numerical controller, comprising:

a uniform run level model comprising a plurality of run levels of different types having differing priorities and further comprising a plurality of user and system-levels having differing priorities [column 8, line 42 - column 9, line 33, In this way, the system...flow chart of Fig. 11."];

a data source [memory] for description information for one of a group consisting of system variables, alarms and commands [col. 2, lines 24 – 43, "To achieve the foregoing...loop structures, etc."]; and

a converter coupled to the data source and to at least the engineering system [object evaluation matrix, col. 4, lines 9-23, "The computer 10...function block 24)."]; and

wherein the data source provides description information to the engineering system via the converter [col. 2, lines 24 – 43, "To achieve the foregoing...loop structures, etc."];

the motion controller being further configured to permit a technology packet to be loaded into at least one of the engineering and run time systems, to provide the system variables with current data for a technical process for the run time system, and to permit input to be made via a user interface of the engineering system [see response to

arguments above; col. 10, line 40 – col. 11, line 52, "Another example...and CheckPoint™."].

19. As for claim 2, Cencik discloses the motion controller according to claim 1, wherein the relevant documentation information is forwarded by the converter from the data source to an output medium [see response to arguments above, Figs. 5A and 5B; col. 4, lines 3-23, "Referring now to the...function block 24)."].

20. As for claim 4, Cencik discloses the motion controller according to claim 1, wherein the technology packet [technology packets inherent for transfer of information between systems and input of information via the user interface] comprises:

a) code parts that represent controller specifics for the run time system and [object properties, col. 4, lines 9-22, "The computer 10...function block 24).]

b) a configuration part that exhibits the allocation of those code parts to each of the system-levels, as well as the sequence of their processing, wherein information relating to the configuration part is forwarded as needed to the engineering system [sequence of processing defined by the scan order, Figs. 6A, 6B, 17].

21. As for claim 5, Cencik discloses the motion controller according to claim 4, wherein the information of the configuration part of a technology packet is delivered to the run time system and the engineering system by use of the data source and converter [see response to arguments above; col. 10, line 40 – col. 11, line 52, "Another example...and CheckPoint™."].

22. As for claim 6, Cencik discloses the motion controller according to claim 4, wherein each technology packet further comprises at least one technology object types for the run time system [col. 2, lines 38-43, "The present invention...loop structures, etc."].

23. As for claim 7, Cencik discloses:

The motion controller according to claim 4, wherein the information presented on the user interface comprises at least one of the group consisting of operating parameters, programming language features and declaration parts allocated to the code parts [col. 8, lines 49-60].

Double Patenting

24. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

25. **Claims 1, 2 and 4-7** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-29 of U.S. Patent No. 6,539,268 B1 (Wucherer et al) (hereinafter Wucherer ('268)). The applicant is reminded that the specification may be used to support the double patenting rejection where the invention claimed in the application is "an obvious variation of an embodiment disclosed in the patent which provides support for the patent claim." [see MPEP 804 B.I.; *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970)]. Although the conflicting claims are not identical, they are not patentably distinct from each other as supported by the following:

Claim 1

A motion controller having an engineering system and a run time system and that functionally combines the classic tasks of a PLC and a numerical controller, comprising:

a uniform run level model comprising a plurality of run levels of different types having differing priorities and further comprising a plurality of user and system-levels having differing priorities [claim 1, Wucherer ('268)];

a data source for description information for one of a group consisting of system variables, alarms and commands [command library, claim 4, Wucherer ('268)]; and

a converter coupled to the data source and to at least the engineering system [converter inherent for transmission of technology packets to the engineering system,

claims 1 and 4, Wucherer ('268); col. 8, lines 42-65 of the specification, "The illustration according to...indicated by three dots."]; and

wherein the data source provides description information to the engineering system via the converter [claims 1 and 4, Wucherer ('268)];

the motion controller being further configured to permit a technology packet to be loaded into at least one of the engineering and run time systems [claim 1, Wucherer ('268)], to provide the system variables with current data for a technical process for the run time system [col. 7, lines 9-35 of the specification, "By means of the...in greater detail."], and to permit input to be made via a user interface of the engineering system [interface inherent to make information available to user, claim 4, Wucherer ('268); interface, claim 5, Wucherer ('268)].

Claim 2

The motion controller according to claim 1, wherein the relevant documentation information is forwarded by the converter from the data source to an output medium [claim 3, Wucherer ('268); col. 7, lines 36-49 of the specification, "Back to Fig. 6...very easily possible."].

Claim 4

The motion controller according to claim 1, wherein the technology packet comprises:

a) code parts that represent the controller specifics for the run time system [code parts, claim 1, Wucherer ('268)]; and

b) a configuration part that exhibits the allocation of those code parts to each of the system-levels, as well as the sequence of their processing, wherein information relating to the configuration part is forwarded as needed to the engineering system [configuration part, claim 1, Wucherer ('268)].

Claim 5

The motion controller according to claim 4, wherein the information of the configuration part of a technology packet is delivered to the run time system and the engineering system by use of the data source [command library, claim 4] and converter [converter inherent for transmission of technology packets to the engineering and run-time systems, claims 1 and 2, Wucherer ('268)].

Claim 6

The motion controller according to claim 4, wherein each technology packet comprises at least one technology object types for the run time system [claim 2, Wucherer ('268)].

Claim 7

The motion controller according to claim 4, wherein information presented on the user interface comprises at least one of the group consisting of operating parameters, programming language features and declaration parts allocated to the code parts [user interface inherent to make information available to the user, claim 4, Wucherer ('268); col. 1, line 57 – col. 2, line 11 of the specification, "In addition to a...different HW platforms (e.g. PC, driver...)."].

26. **Claim 3** is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-29 of Wucherer ('268) and in further view of claims 1-6 of Wucherer et al (US 6,549,541) (hereinafter Wucherer ('541)). The applicant is reminded that the specification may be used to support the double patenting rejection where the invention claimed in the application is "an obvious variation of an embodiment disclosed in the patent which provides support for the patent claim." [see MPEP 804 B.I.; *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970)]. Although the conflicting claims are not identical, they are not patentably distinct from each other.

As shown in the previous double patenting rejection of claim 1 above, Wucherer ('268) recites all the limitations of claim 1. Wucherer ('541) recites all the additional limitations of claim 3, as shown below. It would have been obvious to combine the limitations of Wucherer ('268) with the limitations of Wucherer ('541), because Wucherer ('268) discloses all of the additional features recited in Wucherer ('268) in the disclosure supporting the claimed invention [Wucherer ('268): Fig. 5; col. 5, line 41 – col. 6, line 43, "The illustration according to Fig. 5...the individual run levels."].

Claim 3

The motion controller according to claim 1, further comprising the following run levels:

a) position-control level, comprising an associated clocked system-level and user-level [Wucherer ('541): Fig. 5; claim 1],

b) an interpolator level, comprising the associated clocked system-level and user-level [Wucherer ('541): Fig. 5; claim 1],

c) an event system level for events requiring a response [Wucherer ('541): Fig. 5; claim 1],

d) a user-level for asynchronous errors [Wucherer ('541): Fig. 5; claim 1],

e) a third user-level that is freely plan-able by the user in accordance with specific requirements, for one of the group consisting of alarm tasks, event tasks, control tasks and cyclical tasks [Wucherer ('541): Fig. 5; claim 1],

f) a group of levels, formed from a series of motion sequences, free cycles, and other low-priority system tasks, for background processing, wherein a level group for real-time processing comprises run levels a to e [Wucherer ('541): Fig. 5; claim 1].

Allowable Subject Matter

27. The allowability of claim 3 is hereby withdrawn given the new rejection presented under double patenting.

Conclusion

28. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 5,862,375, note system for configuring peripheral devices; US 5,925,109, note I/O configuration; US 5,999,990, note configuration system with library.

29. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aaron C Perez-Daple whose telephone number is (703)305-4897. The examiner can normally be reached on 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anil Khatri can be reached on (703)305-0282. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

11/12/03

Aaron Perez-Daple

ANIL KHATRI
SUPERVISORY PATENT EXAMINER